

Commodity Spotlight



Florida Sugar Cane League

U.S. Sugar Consumption Continues To Grow

The U.S. sweetener market is the largest and most diverse in the world. The U.S. produces more sugar than all but three other countries—Brazil, India, and China—and is one of the few countries with significant production of both sugar beets and sugarcane. Since 1995, U.S. production of high-fructose corn syrup has outstripped sugar, and the U.S. also produces and consumes large amounts of high-intensity (low-calorie) sweeteners.

Sugar consumption has been rising at over 1.7 percent a year for the last decade, higher than the U.S. population growth rate of about 0.8 percent. For 1996/97, U.S. sugar consumption is currently forecast at 9.8 million short tons, raw value, up from 9.6 million last year. If the forecast is realized, sugar consumption will have risen by about 1 million tons in 6 years, implying a per capita increase of 2.5 pounds.

Consumers' concerns in recent years to avoid fat has benefited sugar, which is often a key ingredient in products promoted as "fat-free." Sugar also appears to have a more positive image than was the case a decade or two ago.

The annual increase in U.S. sugar consumption over the past decade is slightly more than the output of an average U.S. sugar beet factory in 1996. USDA projects that sugar consumption will continue to rise in the next few years, but at rates slightly lower than the trend of 160,000 tons a year achieved in the last 10 years.

Changes in the U.S. Sugar Program

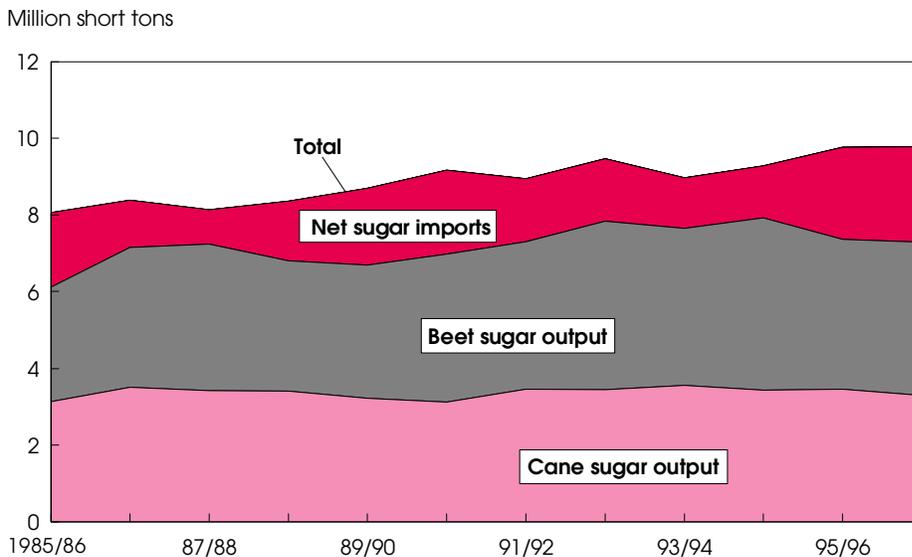
Continued growth in domestic sugar consumption has become more important for domestic producers since passage of last year's Farm Act, which suspended USDA's authority to implement domestic sugar marketing allotments. The marketing allotments were used in some years to restrict marketings of domestic sugar when supplies were depressing prices. With this policy lever removed, and with

changes to the loan program, prices could drop if domestic sugar production increases more rapidly than consumption.

Price-supporting policy mechanisms now consist only of the loan program and restrictive import tariff-rate quotas (TRQ's). Under the raw sugar TRQ, 40 quota-holding countries are each allocated a fixed amount which they may ship to the U.S. in a fiscal year (October-September) at a zero or low duty. Any sugar which enters the U.S. above the quota pays a duty of just under 17 cents per pound—high enough to be generally prohibitive. U.S. sugar imports have trended downward since the early 1980's, but have risen in the last 2 years as U.S. production declined while consumption grew.

As a result of the Uruguay Round of trade negotiations, the U.S. is committed to allowing low-duty sugar imports of a minimum 1.256 million short tons, raw value, each fiscal year. While the TRQ in both 1996 and 1997 has been above 2 million tons, for the 3 previous years it averaged about 1.3 million tons, and in the late 1980's was below 1 million

Net U.S. Imports of Sugar Increase As Production Dips



Raw value. Total excludes stocks (13 percent of 1996/97 supply).
Fiscal year beginning October 1. 1996/97 forecast.
Economic Research Service, USDA

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Sweet Competition

U.S. sugar consumption declined between 1974 and 1986 as *high-fructose corn syrup* (HFCS) replaced sugar in most sweetened liquid products. Since then, the growth of HFCS consumption has not let up, expanding an average of 3.5 percent a year, or almost twice the growth rate of sugar. U.S. consumption of all caloric sweeteners has risen from 127 pounds per capita in 1986, to 153 pounds in 1996, a 20-percent increase in 10 years.

Crystalline fructose is another potential substitute for sugar in some uses and has been commercially available for at least 10 years. It is slightly sweeter than sugar. However, crystalline fructose behaves differently from sugar in most baking and other manufactured food uses, limiting its use as a sugar substitute. While little information is available about the price of crystalline fructose, it is likely still more expensive than sugar.

High-intensity low-calorie sweeteners, such as aspartame, tend to boost overall use of sweeteners, although they also have drawn market share from the caloric sweeteners, especially HFCS. At present saccharin and aspartame are widely used in the U.S. Acesulfame-K is allowed in many, but not all foods, and is awaiting U.S. Food and Drug Administration (FDA) approval for use in soft drinks. Cyclamates are banned. Sucralose is a high-intensity sweetener which has been approved in Canada and some other countries, but is awaiting FDA approval. Alitame is also awaiting FDA approval but is already used in Australia, Mexico, and several other countries.

An interesting industry development is the blending of different sweeteners, which becomes more feasible as more high-intensity sweeteners are approved for general use. Blends of different sweeteners often have synergistic effects, which means the sweetness of the blend is higher than either sweetener by itself. These synergies can allow the manufacturer to cut costs. As new products are introduced, some will likely contain blends of sweeteners. Blends may be particularly effective in soft drinks and other beverages. If so, the greatest impact of increased blending would be on HFCS, since almost no sugar is used in beverages.

(before the minimum access agreed to in the multilateral trade agreement). Another TRQ—currently set at 24,251 short tons, raw value, the minimum level agreed to in the Uruguay Round—applies to refined and specialty sugars, currently operated on a global first-come, first-served basis.

The total TRQ (for raw and specialty/refined sugar) is established annually (and sometimes adjusted within a given year) to control supply. First, an estimate is made of the gap between the forecast of domestic utilization and production for the coming year. The TRQ is set to fill that gap. If it is set too high, U.S. prices could decline below the price support level. If it is set too low, prices could rise to unacceptably high levels.

The level of price support is based on loan rates legislated in the 1996 Farm Act. Sugar processors (not farmers, whose crop can't be stored) can take out price support loans from the government, with sugar as collateral. The loan rate borrowers receive for raw cane sugar is 18 cents a pound (national average), and for refined beet sugar the rate is 22.9 cents a pound (national average).

The Farm Act stipulates that when the TRQ is higher than 1.5 million short tons, the loans are nonrecourse—the processor may forfeit the collateral in lieu of repaying the loan, and the government has no recourse but to accept the sugar as full payment. Nonrecourse loans can, in theory at least, help support the sugar price, since forfeited sugar is effectively taken off the market in the near term.

But if the TRQ is less than 1.5 million tons, the loans will be recourse, which like ordinary loans are repayable in cash only. Under the previous Farm Act, all sugar loans were nonrecourse.

The current program virtually eliminates the risk of Treasury costs. If the TRQ is set closer to the minimum level as over-supply threatens, sugar loans must be repaid even if the price falls. The TRQ's price support function is effective only so long as the gap between U.S. sugar utilization and production remains higher than 1.5 million tons. Although imports seem likely to remain well above the minimum WTO level of 1.256 million tons and the nonrecourse loan trigger of 1.5 million tons for at least the next several years, the likelihood of lower prices is greater under the current program than before.

Lower Output In 1996/97

U.S. sugar production for 1996/97 is projected at 7.29 million tons, raw value, down about 80,000 tons from last year and well below the 1994/95 record of 7.93 million. The share of U.S. sugar consumption provided by domestic production rose from 55 percent in the early 1970's to about 85 percent in the early 1990's, dropping to about 75 percent the last 2 years as bad weather and lower acreage cut U.S. output.

Beet sugar production is projected to be 55 percent of the total, at 4 million tons, well below the record 4.5 million tons 2 years earlier. In 1996/97, harvested sugar beet area was only 1.32 million acres, with much of the 100,000-acre decline due to farmers switching to corn, wheat, and other commodities that commanded

high prices in 1996. Sugar beet acreage expanded from about 1 million acres in the early 1980's to the 1994/95 peak of 1.44 million acres, as the U.S. sugar program provided relatively stable prices while productivity gains lowered costs and raised yields.

The average sugar beet yield is forecast at 20.2 tons per acre in 1996/97, comparable to the longrun average. Although wet

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weather hampered field work last spring and some planting was as late as any year on record, favorable weather in the fall allowed yields to recover.

Sugar beets can be grown in many climates, but are most often found in temperate zones in 14 states, from Michigan and Ohio in the east, across the Northern and Central Plains to the Northwest, California, and Texas. The leading sugar beet producing states are Minnesota, North Dakota, Idaho, Michigan, and California.

Sugarcane can grow only where the climate is tropical or subtropical, and in the U.S. grows in Florida, Louisiana, Texas, Hawaii, and Puerto Rico. Cane sugar production in 1996/97 is forecast at 3.29 million tons, raw value, down from 3.45 million last year. U.S. acreage is forecast at 846,000 acres, down 6 percent from last year.

Florida, the largest cane producing state, is forecast to produce 1.76 million tons, about the same as last year and similar to the 5-year average. This level of output would be about 54 percent of total cane sugar output. Although Florida's sugarcane yield is projected to be 34 tons per acre, down from 34.6 tons per acre last year, sucrose content of the cane is reported to be higher than last year, yielding a similar volume of sugar per acre. The area harvested for sugar in Florida is forecast at 420,000 acres, up slightly from a year earlier.

Sugarcane acreage in Florida expanded from 300,000 acres in 1978/79 to a peak of 428,000 acres in 1991/92, and since then has varied little. Freezes in January this year put some of the crop at risk, but it appears that most of the cane will be harvested and production is not likely to be affected. However, freeze damage to sugarcane plants needed for planting new fields may have been more extensive, which could affect next year's crop. Florida plans to finish harvesting by mid-March.

Louisiana is the second-largest cane sugar producing state, and usually harvests during a short season between October and December. This year's harvest continued

into the first week of January, and total production was 1.045 million tons, not far from last year's record 1.06 million tons.

A freeze in Louisiana in early 1996 damaged many acres which had to be abandoned, and early forecasts assumed a lower crop. But fall weather was excellent, the sugarcane was able to continue adding sugar, and the abandoned fields were the lowest yielding, so that average cane yields were 27 tons per acre, 2 tons higher than expected earlier in the fall. Two new varieties were helpful, with some fields getting over 50 tons per acre.

Total harvested area was 335,000 acres in Louisiana, down from the previous year's record 368,000 acres, with much of the decline due to abandonment of freeze-damaged fields. Sugar yield per acre was a record 3.12 tons, far above the previous high of 2.9 tons per acre in 1994/95. The fields intended for harvest in 1997 have survived the freezes up to the middle of February and look promising for a good crop.

Sugar production in Hawaii has been declining, from over 1 million tons in 1985/86 to a forecast 370,000 tons in 1996/97. Costs for labor, transportation of sugar to the mainland, and environmental compliance are high. Six of 12 mills have closed since 1992, with 2 mills closing in 1996. Some of the remaining mills have been losing money in recent years.

Unlike sugarcane crops on the mainland, Hawaii's are grown for almost 2 years before being harvested. Thus, Hawaii's cane yields—forecast at 87 tons per acre this year—are among the highest in the world. Hawaii's sugar yield is forecast at 10.9 tons per acre, up slightly from recent years but lower than the yields of over 12 tons of sugar per acre achieved in the mid-1980's.

In Texas, irrigation water has been very short for the 1996/97 season, and even with recent rains, there was not enough moisture for a good crop. Sugar production in 1996/97 is forecast at 85,000 tons from 34,000 harvested acres. Texas has one sugar mill in the southern Rio Grande Valley, a cooperative which for the last 5

years has produced over 100,000 tons of sugar, with a record 146,000 tons in 1994/95. Puerto Rico, which has two mills, is forecast to produce 30,000 tons of sugar.

Sugar Processors Consolidate

The number of companies producing and selling refined sugar in the U.S. continued to decline in the 1980's and 1990's. Twenty years ago, 28 companies produced and sold refined sugar, but by 1996 there were only 9. Consolidation has included the merger of cane refiners with beet processors, and currently 3 of the 4 largest sugar sellers are companies with both beet and cane refining facilities.

The number of beet processing facilities has declined, but the 30 beet factories in 1996 could slice more beets in a day than the 36 factories that were operating in 1992. On the farm, improved genetics and cultural practices allow for more extractable sugar in the sugarcane and sugar beet plants, and factories are using new technology to extract more sugar.

In early 1997, a Florida cane processing company, U.S. Sugar Corporation, announced that it will build a sugar refining factory adjacent to an existing raw sugar processing mill. This will mark the first new entrant into the refined cane sugar market in many years, and will raise the number of U.S. cane refining companies to seven (three of these also process and sell refined beet sugar). The facility is expected to be operational in 1998.

The beet sugar processing industry is also gaining a new plant. A sugar beet factory being constructed in Washington will be the first new sugar beet factory built in the U.S. since 1974. It is also expected to be producing sugar next year.

One of the biggest risks facing a sugar beet processing company is whether or not there will be an adequate supply of beets each year. But when the farmers own the processing company, the risk of inadequate supply of sugar beets is very low, since the farmers themselves suffer when the factory is not operating efficiently. Acreage could grow in Idaho

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and Oregon in the next few years where a grower-cooperative just purchased four factories from the Amalgamated Sugar Company. In North Dakota, a cooperative is in the second year of a 3-year expansion that will add about 10,000 acres of sugar beets next year.

Sugar beet acreage has been down in California, Michigan, Ohio, and some Western and Northern Plains states in recent years, well below factory capacity in many areas. But if sugar prices remain strong relative to alternative crops this year, farmers could return to sugar beets and increase production in the coming

year. With the recent excess rains in northern California, however, there is concern that moisture might still be too high in the spring for good sugar beet planting.

Overall, conditions in early 1997 indicate that total U.S. sugar beet acreage is likely to rise in 1997/98. The 1996/97 decline in sugar beet harvested acreage was due in part to the high prices of alternative crops such as wheat and corn, and reduced sugar beet prices in the previous year. By spring, wholesale refined beet sugar prices will have been 29 cents per

pound or higher for over a year, and the most recent sugar beet payments for many farmers were higher than the previous year. The *Prospective Plantings* report, scheduled for release on March 31, will provide the first USDA survey of sugar beet acreage for the 1997/98 crop.

Sugarcane acreage may rise in Louisiana, remain stable in Florida, and fall marginally in Hawaii and Texas. USDA's first harvested acreage report for sugarcane will be released June 30 (in the *Acreage* report).

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